

REMARKS/ARGUMENTS

Claims 1-17 are pending application. Of these, claims 4, 13 and 17 have been amended to more clearly define the invention. The amendments to claims 4, 13 and 17 are of a purely formal nature and do not serve to narrow the scope of the claims. Accordingly no prosecution history estoppel is believed to attach thereby.

The specification has been amended in paragraph 18 at lines 4 and 10 to include reference numeral 340 identifying a "lens." This amendment conforms the specification to the proposed drawing corrections discussed in further detail below. This amendment to the specification is purely formal and no new matter has been added thereby.

The drawings stand objected to under 37 C.F.R. § 1.83(a). The Office Action states that "the claimed lens must be shown or the features canceled from the claims." Applicant notes that claim 11 recites "[a]package as in claim 3, further comprising an upper portion on said package, having surfaces adapted to accept a lens therein," (emphasis added). Accordingly, claim 11 does not claim "a lens", but "surfaces adapted to accept a lens therein." Nevertheless, applicant herewith transmits a Submission of Proposed Drawing Correction proposing to amend figure 3 to include a lens. The proposed changes are supported by the specification in paragraph 18, at lines 3-4. Accordingly, no new matter is believed to be introduced by the proposed drawing correction and favorable consideration of the proposed drawing correction is earnestly solicited.

Claims 1-17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In relation to claim 1, the Office action states that, "it is unclear if [an edge thereof] refers to an edge of the IC or an edge of the contact portion." Applicant notes that the subject phrase of the claim is separated by a comma from the balance of the claim. Applicant believes that this clearly delineates the "edge thereof" as referring to "said rectangular integrated circuit." Accordingly, the rejection of claim 1 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

Claim 4 has been amended to more clearly define the invention. The amendment of claim 4 effectively replaces "the environment" with -- an environment of said package --. Accordingly, the rejection of claim 4 under 35 U.S.C. § 112, second paragraph, is believed to be overcome.

Claim 13 has been amended to more clearly define the invention. The amendment of claim 13 replaces "of a type which is" with -- said metal contact being --. Accordingly, the rejection of claim 13 under 35 U.S.C. § 112, second paragraph, is believed to be overcome.

Claim 17 has been amended to more clearly define the invention. The amendment of claim 17 replaces "travels" with --is disposed--. Accordingly, the rejection of claim 17 under 35 U.S.C. § 112, second paragraph, is believed to be overcome.

Claims 2-3 and 5-12 each depend, directly or indirectly, from claim 1 and incorporate every limitation thereof. Accordingly, the rejections of claims 2-3 and 5-12 under 35 U.S.C. § 112, second paragraph, should be withdrawn for at least the same reasons given above in relation to claim 1.

Claims 14-16 each depend, directly or indirectly, from claim 13 and incorporate every limitation thereof. Accordingly, the rejections of claims 14-16 under 35 U.S.C. § 112, second paragraph, are overcome for at least the same reasons given above in relation to claim 13.

Claims 1-17 stand rejected under 35 U.S.C. § 102(e) over United States Patent No. 6,475,824 to Kim (Kim).

The present invention relates to a frame scale package for an integrated circuit. Claim 1 recites:

A package for a rectangular integrated circuit, comprising: a frame type package, having a top portion, and a bottom portion which defines at least one indented area

where a thickness between the top portion and the bottom portion is thinner than in a non indented area, said indented area sized to accept a rectangular integrated circuit under a thinned portion of said indented area, and said frame type package including a contact portion, extending along at least said bottom portion and said indented area, and adapted to connect to said rectangular integrated circuit around an edge thereof. (Emphasis added).

In contrast, the Kim reference relates to "[a]n X-ray detector, which comprises a gate pad connected to a gate line disposed crosswise in a first direction, a data pad connected to a data line disposed lengthwise in a second direction substantially perpendicular to the first direction, a switching element disposed in the region where the gate line and the data line cross, a storage capacitor connected with the switching element on the same plane, and scanning and data integrated circuit chips for operating the switching element...." Abstract.

The Office Action suggests that Kim discloses "a frame type package, having a top portion, and a bottom portion which defines at least one indented area" and indicates that this corresponds to elements 10, 12, 21, 100, and 20b as illustrated, for example, in figure 2 of Kim. Applicant notes however that element 10 is defined by Kim to be an "x-ray detector panel." Column 4, lines 38-39. Also, element 23 of Kim is defined to be a "printed circuit board." Column 4, line 40. Accordingly, elements 10 and 23 are not part of "a frame type package, having a top portion, and a bottom portion which defines at least one indented area" as claimed. Furthermore, Kim shows "a plurality of copper foils 100 in a striped pattern... adhered to each of two polyamide films 20a and 20b, each foil having an inner lead 17 and an outer lead..." (emphasis added). Column 4, lines 22-24. In no way do these two polyamide films, or any other aspect of Kim, teach or suggest "a frame type package, having a top portion, and a bottom portion which defines at least one indented area . . ." For these and other reasons Kim does not teach or suggest the invention as claimed. Accordingly, Kim does not anticipate the claimed invention or render it obvious and the rejection of claim 1 under 35 U.S.C. § 102(e) should be withdrawn.

Claims 2-12 each depend, directly or indirectly, from claim 1 and incorporate every limitation thereof. Accordingly, for at least the reasons given above in relation to claim 1, Kim does not anticipate or render obvious claims 2-12 and the rejections of claims 2-12 under 35 U.S.C. § 102(e) over Kim should be withdrawn.

Claim 13 recites:

A package for an integrated circuit, comprising: a packaging portion, having an outer perimeter with a metal contact portion thereon, and an inner perimeter, said inner perimeter formed by a downward facing surface with a metal contact thereon, said metal contact being adapted to connect to an integrated circuit and a bottom and sideward facing surface also having said metal contact portion thereon, said contact portion extending from said outer perimeter to said downward facing surface. (Emphasis added).

As noted above, the arrangement shown in figure 2 of Kim shows "a plurality of copper foils 100 in a striped pattern... adhered to each of two polyamide films 20a and 20b, each foil having an inner lead and an outer lead..." (emphasis added). Accordingly, the Kim reference does not teach or suggest "a packaging portion, having an outer perimeter with a metal contact portion thereon..."(emphasis added). Accordingly, the Kim reference does not anticipate the claim 13 invention, or render it obvious, and the rejection of claim 13 under 35 U.S.C. § 102(e) over Kim should be withdrawn.

Claims 14-17 each depend, directly or indirectly, from claim 13 and incorporate every limitation thereof. Accordingly, for at least reasons given above in relation to claim 13, the rejections of claims 14-17 under 35 U.S.C. § 102(e) over Kim should be withdrawn.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

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Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

Michael Bergman

Registration No.: 42,318

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorneys for Applicant

Version With Markings to Show Changes Made

In the Specification

Please rewrite paragraph 18 of the specification as follows:

[0018] Figure 3 shows an alternative frame package which includes an additional threaded area 300 above the die 100 and glass lid 230. The additional area 300 has inner threads, which are threaded to accept a lens 340. In this way, a lens may be mounted within the package, associated with the die. For example, this may enable focusing of certain incoming rays to the die. While this embodiment shows the inner surfaces as being threaded, it should be understood that other surface features could be used alternatively to hold the lens 340 in place.

In the Claims

Please rewrite claims 4, 13 and 17 as follows:

4. (Amended) A package as in claim 1, further comprising an element which allows sealing said integrated circuit relative to [the] an environment of said package.

13. (Amended) A package for an integrated circuit, comprising:

a packaging portion, having an outer perimeter with a metal contact portion thereon, and an inner perimeter, said inner perimeter formed by a downward facing surface with a metal contact thereon, [of a type which is] said metal contact being adapted to connect to an integrated circuit and a bottom and sideward facing surface also having said metal contact portion thereon, said contact portion extending from said outer perimeter to said downward facing surface.

17. (Amended) A package as in claim 16, further comprising a backing area, hermetically sealing a bottom portion, and wherein said metal contact [travels] is disposed

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around said bottom portion.